**16 - Fiche de présentation :**

**UMR INRA 1019 Unité de Nutrition Humaine, Université Clermont Auvergne**

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**Study of the effects of oleoylethanolamide (OEA) on muscle atrophy in vivo and in vitro**

Age-related disorders result in a decrease of muscle mass/strength (sarcopenia), impacting the mobility/quality of life of the elderly. Due to the current aging of the population, identifying intervention levers to thwart the implementation of this sarcopenia is of major importance.

Sarcopenia is caused by multiple factors such as muscle atrophy resulting from an imbalance between synthesis and protein breakdown, anabolic resistance, and ectopic accumulation of lipids. It is now widely documented that low-grade inflammation plays an important role in the development of age-related muscle damage. N-acylethanolamines are lipid derivatives produced from fatty acids, known to have anti-inflammatory effects and to regulate lipid metabolism. Studies in progress in our team, conducted in the elderly rat, have shown a correlation between plasma oleoylethanolamide (OEA) content and muscle mass/function.

The objective of this PhD project is to study the effects of OEA on muscle atrophy and to identify the molecular mechanisms involved by 1) using a model of myotubes in cultures in response to inflammation induced by treatment with TNFα or lipotoxicity induced by palmitate treatment and 2) studying the effect of supplementation of OEA in the elderly rat on muscle mass/function.

**Le Bacquer O.** et al. 4E-BP1 and 4E-BP2 double knockout mice are protected from aging-associated sarcopenia. J Cachexia Sarcopenia Muscle. 2019 Jun;10(3):696-709.

ATTENTION L'ENSEMBLE DU TEXTE NE DOIT PAS DEPASSER

1990 CARACTERES, ESPACES COMPRIS

Dans l’exemple proposé dans le cadre : n = 1984 caractères